

**\$4.4M investment
in energy and
environmental
engineering research**

Richard Cairney

A new national research program established at the University of Alberta strengthens the ability of industry and government to make evidence-based decisions about energy pathways and resources while finding ways to conserve water and reduce greenhouse gas emissions.

Amit Kumar, a professor in the Department of Mechanical Engineering, has been appointed as the Natural Sciences and Engineering Research Council of Canada/Cenovus/Alberta Innovates Associate Industrial Research Chair in Energy and Environmental Systems Engineering, and is the inaugural chairholder of the Cenovus Energy Endowed Chair in Environmental Engineering.

The \$4.4-million investment in these research programs is made possible through a \$3-million endowment created by Cenovus Energy, \$925,000 from NSERC, \$250,000 from Alberta Innovates – Bio Solutions and \$250,000 from Alberta Innovates – Energy and Environment Solutions. This research will play an important role in responsible energy development—Kumar has already made significant contributions to environmental and energy modelling.

The unique characteristic of Kumar's research program is that it integrates economic, environmental and technological assessments to help policy-makers find the best mix of energy sources to use, minimizing environmental impact.

The team looks at the historic use, costs and impacts of different energy sources to make predictions about future use of renewable and non-renewable energy sources and technologies. This analytical work will better enable governments and industries to find the most efficient ways to move forward with resource development. For example, one project examines energy return on energy investment—calculating how many units of energy are required to produce another unit of energy.

Continued on page 5

Wading into research



Mark Poesch, seen here collecting fish data with his team of researchers at a wetland in south Edmonton, is hoping Albertans will help further his research by sharing their 'It was this big' fishing exploits with him. See story page 6.

U of A's heart and stroke research excellence attracts \$25M commitment

Raquel Maurier

In 1956, University of Alberta heart surgeon James Callaghan performed the first open-heart surgery in Canada. He also co-created the pacemaker. Now another historical milestone is cementing the U of A's reputation as an international centre of excellence in heart and stroke medical research and patient care.

The Heart and Stroke Foundation of Canada is making an unprecedented \$25-million, multi-year commitment to funding medical research at the U of A, in support of advancing health through teaching, research and patient care.

"We are honoured that the University of Alberta has been recognized for our national leadership in heart and stroke research," said President Indira Samarasekera. "This generous commitment by the Heart and Stroke Foundation will allow us to build on the work we are doing, in partnership with Alberta Health Services, to translate research into practical prevention, care and treatment procedures for people."

The foundation's \$300-million commitment is part of its newly formed Heart and Stroke Foundation Research Leadership Circle, which



Justin Ezekowitz (right) says this funding commitment is key to heart and stroke innovation.

includes leading universities across the country. Their goal is to dramatically reduce the number of Canadians who die from heart disease and stroke by 25 per cent by 2020.

Over the next 10 years, the U of A's highly skilled cardiovascular surgeons, cardiac care professionals, cardiologists, stroke specialists and educators, and researchers will work collaboratively across the health sciences disciplines to help the Heart and Stroke Foundation reach its goal to save lives through advancements in research. Heart disease and stroke account for almost 30 per cent of all deaths every year in Canada. Every seven minutes someone dies from heart disease and stroke—that's nearly 69,000 people annually.

"The time has come to establish a new, more aggressive and co-ordinated approach to ending heart disease and stroke, so we've partnered with some of the highest-performing researchers in Canada to get the job done," said Irhan Rawji, past chair of the foundation.

Faculty of Medicine & Dentistry researchers Justin Ezekowitz and Gary Lopaschuk, two U of A researchers who have received foundation funding, said the unprecedented financial commitment will allow them to make more advancements in heart research.

"With a sustainable and stable financial commitment of this magnitude, we will be able to further the research into preventing heart disease and treating those patients who already have suffered the burden of a heart attack, heart failure or heart rhythm problems," said Ezekowitz. "Canadians lead the way in the innovations required for the next generation of healthier people."

Lopashchuk added, "This is a transformative gift to medical research at the University of Alberta. With the expertise we have already attracted here, it's clear that the University of Alberta is building one of the world's leading heart research centres." ■



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folio

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Green award for idea to use fungi to reclaim tailings ponds

Bev Betkowski

As a native Albertan and lifelong Calgary resident, Kelcie Miller-Anderson has grown up in the heart of the province's oilsands industry, keenly aware of the environmental controversy swirling around it.

The problem was in the back of her mind a few years ago, as she studied a dandelion growing out of the pavement. "They grow everywhere, and I wondered why they could do that."

“The University of Alberta is one of those schools that is so good academically, but there's also such a good community of students here.”

Kelcie Miller-Anderson

Miller-Anderson's curiosity soon sprouted a makeshift lab in the basement of her family home, where the teen—then 15—began experimenting with fungus found in dandelion roots that keeps the weed hardy.

Intrigued by the plant's scrappy ability to survive in tough conditions, Miller-Anderson hoped to adapt that idea to clean up the tailing ponds that store contaminants from oilsands extraction. Her experimentation evolved into growing oyster mushrooms in tailings pond material supplied by Syncrude. The results have been encouraging: the fungi are successfully treating the contaminants, dropping the levels of salt, pH, acids and hydrocarbons in the water. Even better, the method is all-natural and cost-effective.

Fast-forward three years and Miller-Anderson, now 18 and a second-year environmental sciences student at the University of Alberta, has collected a shelf full of prestigious awards for her budding research, including two this month.

She collected a national Top 20 Under 20 Award in Toronto June 6, then flew home to Alberta the same day to collect an Alberta Emerald Award for her work. And in 2012, she

received a Manning Young Canadian Award and recognition as the ASTech Foundation Featured Student for that year.

Headly stuff for the barely legal teen, who is grateful that she has found her calling in life at such an early age.

"A lot of kids don't have that passion coming into university. I have been lucky to find what I love before I started taking classes."

As a kid, she dabbled with the standard baking soda and vinegar experiments, and has always been fascinated by the potential of science.

"Science gives a platform to answer questions. No one is saying no in science; there are so many things to be discovered and the possibilities are endless."

Busy pursuing a land reclamation degree in the Faculty of Agricultural, Life and Environmental Sciences, Miller-Anderson is determined to eventually make a difference through a career in the oilsands.

"I was always aware of the industry and as I got older I realized how important it is socially and economically to Alberta and to Canada as a whole. All we hear in the media is the problems, not the benefits. I want to change the way the industry is perceived."

Though she has suspended her research to juggle a class load, Miller-Anderson plans to get



Kelcie Miller-Anderson has earned a collection of awards for her budding oilsands research, including the Alberta Emerald Award this month.

back to it before she graduates. The next phase will be field trials, likely conducted during her summers. "I want to solidify my findings and get the method perfected, and see it being used in the future."

First though, come her U of A studies. "I really loved my first year and I can't wait to go back in the fall. The University of Alberta is one of those schools that is so good academically, but there's also such a good community of students here." ■

Emerald Awards: U of A winners and nominees

Shared Footprints Award winner MONTANE ELK PROJECT

Mark Boyce, Simone Ciuti, Dana Seidel, Andrea Morehouse and Henrik Thurfjell
The Montane Elk Project has become the world's largest radiotelemetry study on elk. In an effort to mitigate the ecological effects of energy development, this project has documented the efficacy of access management for enhancing habitats for elk and other species including grizzly bears, wolves and cougars. Research is underway by scientists at the U of A, University of Calgary and Oregon State University.

Education: School or Classroom winner GREEN SCHOOL AND KIDS IN THE GARDEN

Emma Gilbertson, Deb Greiner, Antonella Bell
The 30,000 children who have participated in Devonian Botanic Garden's Green School and Kids in the Garden programs immerse themselves in the outdoors with daily or week-long nature experiences. These innovative educators tackle "nature deficit disorder" and teach public school teachers how to bring experiential education to classes.

Government Institution category nominee UNIVERSITY OF ALBERTA'S OFFICE OF SUSTAINABILITY

Launched in 2009, the office delivers programs in three focus areas: outreach and engagement, academic teaching and research, and facilities and operations. This nomination concentrates on outreach and engagement, which delivers projects that build sustainability skills and knowledge; connects people to information, experts, tools and funding; profiles and promotes campus initiatives; crafts meaningful partnerships and builds action-oriented programs.

NSERC grants help continue string of discoveries

Michael Brown

Discovery is on the horizon for University of Alberta researchers thanks to renewed investment in basic research by the federal government.

The Natural Sciences and Engineering Research Council of Canada has announced that U of A researchers will receive more than \$26.5 million over the next five years as part of the government's Discovery Grants Program.

"On behalf of the University of Alberta I thank the Government of Canada and NSERC for their investment in basic research and our talented researchers," said Lorne Babiuk, vice-president of research. "Such funding is vital; it increases Canada's human capital and nurtures our next generation of researchers and innovators, enabling them to pursue their most promising ideas—the results of which will drive tomorrow's discoveries and lay the foundation for future innovations."

The bulk of the funding is headed to 136 university researchers as part of the Discovery Grants Program's individual awards, all paid out over five years. NSERC

also awarded 18 grants under its Research Tools and Instruments Grants Program, the largest of which, \$150,000, went to engineering researcher Roger Zemp for pump-probe photoacoustic microscopy with lock-in detection.

Seven researchers were awarded \$120,000 Discovery Accelerator Supplements, which are paid out over three years to maximize the impact of superior research programs.

The university's physics and mathematics department were well represented with NSERC funding. Four physics projects were awarded subatomic physics Discovery Grants worth \$683,000. The largest single grant went to physicist James Pinfold in the category of subatomic physics as part of NSERC's Major Resources Support Program. Pinfold will receive \$960,000 paid out over three years in support of the U of A's Centre for Particle Physics.

Vincent Bouchard, a researcher in the Department of Mathematical and Statistical Sciences, was awarded the university's lone individual subatomic physics Discovery Grant to carry on his work using string theory to devise new results in mathematics.

String theory is basically science's attempt to reconcile the four forces in the universe—electromagnetic force, the strong nuclear force, the weak nuclear force, and gravity—into one unified theory using one-dimensional filaments of energy known simply as strings.

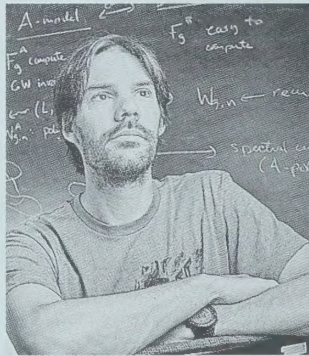
And although mathematics is typically a tool used to understand physics, Bouchard and his team are having success using string theory to devise new results in mathematics.

He explains that there are many ways to describe the same physics, a phenomenon he calls "dualities," in string theory.

"It turns out that mathematically these dualities are extremely interesting, because the different mathematical models that describe the same physics imply fascinating new results in mathematics," he said. "Using string dualities we can extract new theorems, new conjectures, new ideas in mathematics, mostly in geometry, which is my main research area."

Bouchard also uses geometry in an attempt to explain the 10 dimensions of space-time that string theory depends on.

"The problem is that string theory is so complex that it is hard to do any



Vincent Bouchard

specific calculations," said Bouchard of a science that is so abstract that the chief tools of discovery are still pen and paper. "We're trying to show whether string theory really is a fundamental theory of physics, and I think that is important for the U of A to be a part of."

Bouchard says next summer the U of A will be hosting the world's premier conference dedicated to the mathematics of string theory, which he says is a testament to the strength of the physics and math team assembled at the university.

"I think we have a very strong group and a very active research environment," said Bouchard. "We are very fortunate here; we are very much encouraged to do research, and I hope it will stay like that." ■

Joseph Doucet named dean of Alberta School of Business

Michael Brown

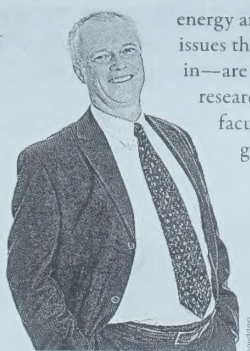
The University of Alberta Board of Governors has appointed Joseph Doucet as dean of the Faculty of Business, effective July 1.

Doucet, one of Alberta's leading energy policy thinkers, assumed the role of interim dean of the Faculty of Business (also known as the Alberta School of Business) 18 months ago after longtime dean Mike Percy stepped down in 2011.

"Joseph sees the Alberta School of Business as a world-class business school with a highly successful research focus, excellence in teaching programs and outstanding connections to its communities," said Martin Ferguson-Pell, acting provost and vice-president (academic). "He envisions the school taking its place as a national and international leader, actively contributing its voice to economic development and applied research, with its alumni assuming positions of leadership in business."

Doucet, who served as the school's Enbridge Professor of Energy Policy between 2005 and 2010, says the university's excellence across so many faculties is what is particularly attractive about his new post.

"Solutions to many of the societal challenges that we face—from issues in governance and business ethics, new technologies or the



Joseph Doucet

energy and environmental issues that I am interested in—are going to involve researchers across all the faculties," he said. "It's going to be important that university leaders are more effective in working across those faculty lines to bring more power to bear on those significant social challenges."

Doucet joined the Alberta School of Business in 2000 and quickly helped to grow and champion the now 14-year-old MBA specialization in Natural Resources, Energy and Environment, as well as the Centre for Applied Business Research in Energy and the Environment. He was also the first director of the U of A's School of Energy and the Environment from 2006 to 2010.

In the course of the more than 20 years he has been an academic, Doucet has looked at an array of issues regarding energy regulation in everything from public utilities and power plants to pipelines and power lines, thinking about how to make energy regulatory structures more effective and more efficient.

"I want to provide a rich, strong, vibrant learning environment for all of our students across all of our degree programs, to put them in a position to assume challenging and strategic leadership roles when they leave the Alberta School of Business."

Joseph Doucet

He says his research interests in energy and policy have been pivotal in his increasing leadership role in the school and in the province. Doucet is a frequent commentator in the media and an analyst to government departments, regulatory agencies and private-sector entities in the energy industry. And although he says administration was never something he thought about early in his career, it is something he has grown to appreciate as the need for leadership has increased in the complex and often interdisciplinary field of energy public policy. "I believe my research examines a really broad set of issues, and that

puts me in a good place to lead the Alberta School of Business."

In his short time as interim dean, Doucet has already had an immeasurable impact. His first order of business was developing the school's earnest new vision: Leaders from Alberta for the world.

"I want to provide a rich, strong, vibrant learning environment for all of our students across all of our degree programs, to put them in a position to assume challenging and strategic leadership roles when they leave the Alberta School of Business."

And while developing a plan for building a new home for the Alberta School of Business will be the backdrop for everything the faculty does over the next five years, Doucet says his main priority is to solidify the school's leadership in research. According to the 2013 Financial Times business school rankings, the Alberta School of Business is among the top 100 business schools worldwide; in research output, it ranks ninth globally among publicly funded institutions and 33rd overall.

"We are a research-focused and research-active business school, so I want to focus on applied research that speaks to policy-makers, speaks to government, speaks to firms and NGOs outside of the university," he said. "I want us to do a better job of communicating how our research is relevant in the real world." ■

School of Public Health welcomes new dean

Michael Brown

The University of Alberta Board of Governors has approved the selection of Kue Young as dean of the Faculty of Public Health (also known as the School of Public Health), effective August 1.

Young, an international expert in northern and Aboriginal health, is joining the U of A after a successful 11-year posting as professor and TransCanada Chair in Aboriginal Health at the Dalla Lana School of Public Health, Faculty of Medicine, of the University of Toronto.

"Pointing to the faculty's recent achievement of accreditation, Dr. Young cites the strength of the faculty in its members, who contribute to a broad and multi-faceted outreach that touches every facet of life," said Martin Ferguson-Pell, acting provost and vice-president (academic). "He considers the University of Alberta School of Public Health to be in the forefront of public health in Canada and is excited at the prospect of being a part of it."

Aside from being the dean of the first fully accredited free-standing Faculty of Public Health in Canada, Young says the position is one of great influence.

"First of all, to be involved in producing the next generation of public health professionals is a very important task," he said. "I believe that I have some experience that I can bring to the job because of my exposure to health conditions outside of academe."

"I see it as a leadership position in Canada. The dean of the U of A School of Public Health is automatically considered a mover and a shaker, and can help shape the public health agenda in Canada," he says. "It is a position that interacts with policy-makers, NGOs, the different sectors that have an impact on public health. I think it is a very exciting and challenging position."

After interning at the Toronto General Hospital followed by a spell practising family medicine in Regina in the mid-1970s, Young joined the University of Toronto's Sioux Lookout Project in northwestern Ontario, where he provided clinical care in a small rural hospital and travelled to remote Aboriginal communities.

And though he loved the work and saw his efforts transform individual lives, he came to the realization that no

matter how many patients he saw in a day or week, he couldn't foresee an end to it.

This new perspective set the young physician on a search for a different way of making a difference. When he recognized that focusing on broader public health issues was a way of making long-lasting changes that would advance the protection of health and prevention of disease, he began training in public health.

"Most Canadians do not have much exposure to the living conditions in northern communities," he said. "Being brought face to face with the realities of the poverty, of the remoteness, the lack of access, brought home to me that maybe this is something worth spending some more time on."

Young's experience also includes working in Tanzania with CUSO, training rural health workers. In addition to his medical and public health degrees, he has also a PhD in anthropology from Oxford. In 1983, Young joined the University of Manitoba, where he would spend the next 18 years immersed in public health academia, eventually becoming the founding director of the Northern Health Research Unit and head of the Department of Community Health Science. In 2011, he named a member of the Order of Canada.

His research interests have changed over the years—in many ways, he says, mirroring the health changes affecting Canada's Aboriginal population. He says that cultural, social and economic shifts are taking a toll on Aboriginal health. Issues relating to diabetes, heart disease and obesity have replaced things like infectious diseases, which were at the forefront of Young's research when he first started out.

More recently, he has been looking at the health-care system in general, particularly as it exists in Canada's most remote areas.

"We are spending a lot of money on health care in the north but we don't seem to be getting any value," he said. "I want to find out how we can make the health-care system better and more efficient, and less costly."

"Given Canada is such a rich country, we really have no reason people should not all experience the same level of health care."

In educating future public health leaders and putting what is learned from research into public health program practices and policies, the School of Public Health makes a difference, but can do more. Young says he wants to build on the school's accomplishments and lead and support efforts to increase productivity and enhance effectiveness.

"We have to be clear on what we want to do and focus on a few priority areas to excel, and we have to do that together," he said. "I'm not going to impose my own view on the faculty; we'll use a consultative process and make sure we can all agree on the plan for the next five years."

Young said the School of Public Health is on the brink of greatness, thanks in part to the work of his predecessor,

"The dean of the U of A School of Public Health is automatically considered a mover and a shaker, and can help shape the public health agenda in Canada."

Kue Young

interim dean Lory Laing. He says he is eager to begin discussion about expanding the already first-rate educational programs that exist in the school, and he likes the path that U of A public health researchers have taken.

"I think there are some strategic research opportunities in the province where the School of Public Health could take a leading role, and I want to explore those," he said. He adds that no matter what direction the school takes going forth, he will ensure it will take its lead from what its new home represents.

"When I went to look at the Edmonton Clinic Health Academy I was impressed by the building; I've never seen anything else like it. The fact that you could bring the different faculties together, the way the architecture facilitates interaction and learning, all that is very exciting." ■

Are You a Winner?

Congratulations to Karin Fodor who won a butterdome butter dish as part of Folio's June 14 "Are You a Winner?" contest. Fodor identified the object in the last issue's photo as one of the monoliths just east of the CCIS building. Up for grabs is a copy of Demeter Goes Skydiving, a book of poetry by Susan McCaslin, courtesy of the U of A Press. To win it, simply identify where the object pictured is located and email your answer to folio@ualberta.ca by noon on Monday, July 15 and you will be entered into the draw.



Board approves plan for women's residence at St. Joe's College

Michael Brown

The University of Alberta Board of Governors has paved the way for a new women's residence connected to St. Joseph's College.

On June 21, the board approved a plan that will see the university oversee construction of a 282-bed development that will provide the college with an all-female housing option.

The residence will be a combination of 20 single-bedroom suites, 49 double-bedroom suites and 41 units containing four bedrooms.

"We believe there is a significant unmet demand for residences for women and we believe there's a very good market for that," said Don Hickey, vice-president of facilities and operations.

In an effort to facilitate the most cost-effective financing through the Alberta Capital Finance Authority, St. Joseph's College will transfer ownership of its lands to the U of A for \$1. The land will be then subdivided into three parcels, two of which will be transferred back to St. Joseph's for \$1. For the purposes of financing, the third lot will remain owned by the university and will be leased back to St. Joseph's, for the amortization period of the mortgage, for the purposes of operating the residence.

The U of A, having considerable expertise in project delivery, will oversee design, construction and commissioning of the building on a fee-for-services basis. The space, which is considered particularly important in attracting

female students, will be open to all U of A students.

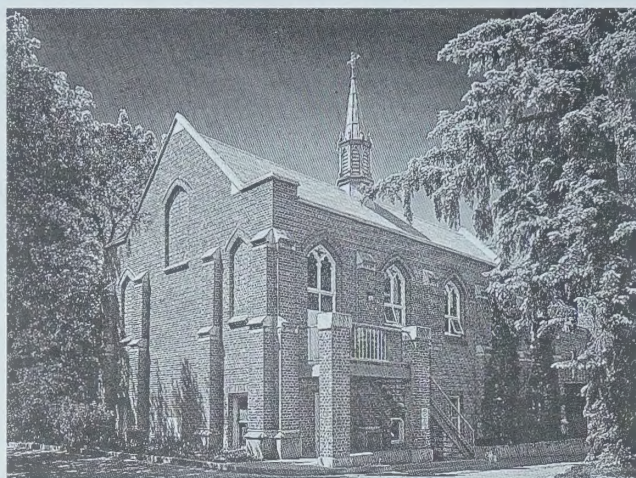
"Our target for beds against enrolment is about 25 per cent and we're currently at 14 per cent. With what we have under construction and with St. Joe's we will gain a couple of percentage points on that at least," said Hickey.

The board of governors also approved the amendments to the South Campus Long Range Development Plan. The plan is a flexible, dynamic document that identifies how U of A lands and facilities should be developed in response to the university's academic, strategic research and strategic business plans, and it outlines the operational planning initiatives and guidelines that will direct development.

Reviewed every 10 years, the amended plan concludes more than four years of campus planning activities and consultation with neighbouring communities on proposed land uses for the South Campus.

In addition to the existing nine planning principles within the existing 2002 LRDP, the principles of smart growth and planned communities have been further developed and incorporated into the amended plans. These principles reference best practices and adopt a "triple bottom line" approach that balances the environmental, economic and social aspects of sustainability.

"Principles have not changed from the 2002 document," said Hickey. "If anything, they have been enhanced—especially around sustainability."



St. Joseph's College is in the early stages of constructing a 282-bed all-female residence.

The plan still paves the way for a population of 15,000 students plus associated faculty and staff as outlined in the earlier document, with amendment highlights including additional student housing, improved transportation and access routes, a reduction in parking, increased recreation and

shared-use area, and the relocation of the storm water management pond to be developed as an integrated constructed wetland and bio-swale system.

To view the South Campus Long Range Development Plan Amendment 2013, go to <http://bit.ly/16xNc5W>. ■

A look at St. Joseph's College

At the invitation of Henry Marshall Tory, first president of the University of Alberta, the Catholic community founded the U of A-affiliated St. Joseph's College on the university campus in 1926 to relieve what was a pressing need for Catholic post-secondary education in the province. The college housed up to 100 men in close quarters and provided university courses in Christian apologetics, ethics and philosophy.

Today, St. Joseph's teaches courses in applied ethics, philosophy, religious education and theology at the undergraduate level for credit in all degree programs with arts options, as well as courses in religious education for students in the Faculty of Education. The college offers a doctor of ministry, master of psychotherapy and spirituality, and various bachelor's and master's degrees in theological studies.

June 21 board highlights

Budget Principles

The board approved the budget principles that will guide the university in developing the strategies that will enable the institution to achieve a sustainable budget. The principles were previously approved June 3 by the General Faculties Council.

Transit Pass

The board approved the U of A Universal Transit Pass (U-Pass) fees for 2013-14 and 2014-15. The mandatory student pass will cost \$122.92 per term next year and \$129.17 in 2014-15.

Post-doctoral Fellows Policy

The board also approved changes to the Post-doctoral Fellows Policy, making five-year appointments standard for post-doctoral fellows, up from three years with an extension to a maximum of five years. With the complexity of today's science and the changing nature of post-doctoral training, it was felt that three years was too short.

Augustana

The board approved the merger of Augustana Faculty's Department of Fine Arts and Department of Humanities into a single Department of Fine Arts and Humanities to create administrative efficiencies and reduced expenditures, and help facilitate improved faculty communication and new collaborations in teaching and research.

TEC Edmonton spins off record-setting year

Michael Brown

On the heels of a record-setting year, the university's business accelerator initiative has been given a vote of confidence by the University of Alberta Board of Governors.

On June 21, the board approved the university's financial commitment to TEC Edmonton of \$1.5 million per year for three years to fund operating costs.

"We talk about the flywheel effect at the university level when research builds and you start attracting people and it all starts to move faster—that's what's happening at TEC Edmonton," said board chair Doug Goss.

The 2012-13 fiscal year was unprecedented for TEC Edmonton. Five new spinoff companies were incorporated—Nemisor, AdvEN Solutions, ImMed, ArthroSci and Qwogo—with another eight companies working towards incorporation. TEC Edmonton also completed 24 agreements to license technology to industrial partners, of which 14 went to companies operating in Edmonton and area.

All told, the U of A now ranks ninth of 131 major North American universities for creation of enduring spinoff companies.

"TEC Edmonton is a tangible demonstration of the university's strong commitment to generating sustainable new economic activity in the Edmonton region through successful technology commercialization," said Chris Lumb, TEC Edmonton CEO. "This shows in results. The University of Alberta's leadership in creating bridging organizations like TEC Edmonton, a joint venture with the city, is now being emulated by other universities in the province and around North America."

TEC Edmonton, created in 2006 as a joint venture between the U of A and the city's Edmonton Economic Development Corporation, acts as the university's agent for technology commercialization and entrepreneurial training services for both university spinoff companies and startup companies from the community at large.

Currently, about 90 per cent of university inventors choose to use the services provided by TEC Edmonton,



Chris Lumb

including mechanical engineering professor and inventor Walied Moussa, who has invented wireless nanosensors to monitor the condition of structures like bridges and pipelines.

"I have worked closely with TEC Edmonton in commercializing my sensory technology to Nemisor

Technologies Inc.," he said. "The TEC Edmonton team is open to all options and alternatives. They understand the needs of emerging technology companies, which was a big help in successfully launching my company."

A second goal shared by the city and the university through TEC Edmonton is to ensure the economic benefits from U of A research stay as much as possible within the greater Edmonton community.

"We were one of the first North American universities to recognize the role institutions like ours can play in local economic development through successful commercialization of university research," said Lorne Babiuk, U of A vice-president of research. "TEC Edmonton knows what we have at the university and can link it up with its businesses. That's a huge asset for the university to help these businesses succeed." ■

TEC Edmonton

Located in the heart of downtown Edmonton, the TEC Centre is a business incubator, offering early-stage businesses a base for operations.

TEC Edmonton's business development team is made up of almost 20 professionals—executives-in-residence and business development associates. The 12-person technology transfer team is the largest group of intellectual property professionals in Alberta, and the entrepreneur development team provides a wealth of resources and hands-on applied learning.

MRI can measure children's heart damage caused by chemotherapy

Raquel Maurier

Medical researchers at the University of Alberta used an MRI scanning technique that can reveal damage to children's hearts from chemotherapy treatment—damage that can't be picked up by ultrasound.

Lead Faculty of Medicine & Dentistry researcher Edythe Tham said the scanning technique could be used to identify heart damage before symptoms appear, and may guide early treatment in attempts to delay heart damage for pediatric patients. She said it could be two to five years before this type of technique would be regularly used by physicians.

"If we can find the heart damage earlier, we might be able to administer medications to help protect the heart," said Tham, a researcher with the Department of Pediatrics, who is also a pediatric cardiologist. "This is a novel finding. It could change the way we manage and help pediatric patients with cancer."

The research study involved 30 children between the ages of seven and 19 who had survived cancer treatment with a specific type of chemotherapy known as anthracycline, and had been in remission for at least two years. The team scanned the hearts of the children using ultrasound and MRI. The study also involved exercise endurance tests that examined the children's oxygen capacity after they rode on a bike for a certain length of time.

Richard Thompson, from the Department of Biomedical Engineering, applied an emerging MRI scanning technique known as T1 mapping that can examine the amount of scarring in the heart. This technique was used in this study and can detect damage that can't be seen on ultrasounds.

"The results showed pediatric patients who received higher doses of chemotherapy had more evidence of heart scarring, thinner heart muscle walls and reduced exercise capacity," Tham noted.

"We know chemotherapy damages heart muscle walls, but we are trying to find ways to detect the heart damage earlier—like T1 mapping. Physicians could monitor their pediatric patients using this test on a regular basis to see if there are changes in the heart over time. Heart damage doesn't always show up right away so there needs to be long-term monitoring."

The two-year research study was funded by the Women and Children's Health Research Institute. ■

President wins RBC top 25 immigrant award

News Staff

President Indira Samarasekera has been named as a 2013 RBC Top 25 Canadian Immigrant Award winner.

Samarasekera, who is the first woman to hold the post of president and vice-chancellor at the University of Alberta, remembers debating whether to leave her PhD studies in metallurgical engineering at the University of British Columbia rather than leave her son at day-care. Her PhD adviser told the Fulbright-Hays Scholar not to give up.

She didn't. Samarasekera, the first female mechanical engineer in her native Sri Lanka, completed her PhD, and went on to become a professor and consultant with global steelmakers, known for her groundbreaking work on process engineering of



Indira Samarasekera

materials. In 2000, she became vice-president of research and held the Dofasco Chair in Advanced Steel Processing at UBC.

Five years later, Samarasekera was invited to head up the U of A. Under her administration, a renewed vision was established and close to \$1.5 billion in capital construction was completed, including the National Institute for Nanotechnology, the Centennial Centre for Interdisciplinary Science, and the Edmonton Clinic Health Academy and Kaye Edmonton Clinic in partnership with Alberta Health Services. The university also opened a downtown campus, Enterprise Square; established the Killam Research Fund for the Social Sciences, Humanities and Fine Arts; and created the School of Public Health.

"I believe that the University of Alberta is at a turning point—that we are a strong, creative, forward-thinking institution that must define its future," she said. "Preparing minds for the future is what we do. It is an essential part of the University of Alberta's contribution to Alberta and to the world. We teach, we train, and we transform young minds. In doing so, we are helping to shape the future of our province."

The RBC Top 25 Canadian Immigrants is a people's choice award that recognizes people who have come to Canada and made a positive difference. ■

\$4.4M engineering investment

Continued from page 1

"We want to examine the economics and environmental impacts of producing energy. How much water and land does it take to produce a kilowatt-hour of electricity? How much CO₂ is emitted? And what happens when we produce that energy using coal or wind or hydro or biomass? We will look at wind, biomass, natural gas and oil and compare the costs and environmental impacts of producing them," said Kumar, whose research team will also investigate the best technologies to use with different energy sources.



Amit Kumar

Kumar's NSERC Industrial Research Chair is the 22nd to be awarded to the University of Alberta—and the 18th awarded to the Faculty of Engineering.

Under this chair program, Kumar is also charged with educating highly qualified engineers who will be able to bring their energy modelling knowledge to industry and government. Kumar supervises 20 undergraduate, master's and PhD students, research assistants and post-doctoral fellows.

David Lynch, dean of engineering at the U of A, told a crowd gathered for the announcement June 17 that the research program would not be possible without the collaborative partnership between the university, the federal and provincial governments, and a strong industry partner like Cenovus Energy.

"By providing the basic research foundation, we can promote the development and upgrading of Alberta's natural resources in an environmentally responsible manner," he said. "At the same time, we are giving our students a truly world-class education—and they in turn will bring their knowledge and expertise to industry and government as engineering professionals to solve future challenges." ■

People Make the Difference at the University of Alberta

2013 Retirements

Thank you. It is only through your tireless efforts and loyal dedication over your many years of service that the University of Alberta has grown to become a crown jewel in Edmonton, the flagship post-secondary institution in Alberta and a top school in Canada.



"Congratulations to our faculty and staff retiring this year. Each of you has contributed to fostering our environment of discovery and scholarship at the University of Alberta—thank you for your excellent work. I wish you all the best for a happy and fulfilling retirement."

—INDIRA SAMARASEKERA, PRESIDENT AND VICE-CHANCELLOR

Walter Allegretto Math and Statistical Sciences ✶
Gail Amort-Larson Physical Education & Recreation ✶ Dana Andreassen Augustana ✶
Lawrence Aronsen History and Classics ✶
Edmund Aunger Campus Saint-Jean ✶ David Austin AICT ✶ Patricia Barnes Electrical and Computer Engineering ✶ Carolyn Behm Biological Sciences ✶ Randy Benson Chemistry ✶ Anna Biscoe Arts ✶ James Bobryk SMS Procurement and Contract Mgmt ✶ Helen Boritch Sociology ✶ Christine Boyle Psychology ✶ Douglas Brimacombe Physical Education and Recreation ✶ Norbert Brinkmann Supply and Management Services ✶ Lynda Brulotte Research Services Office ✶ Jack Bula Engineering Technologists ✶ William Burris Physics ✶ Georgina Burstow Arts ✶ Ujjayant Chakravorty Economics ✶ David Chanasyk Renewable Resources ✶ Hua Chen Surgery ✶ Gerald Cliff Math and Statistical Sciences ✶ Richard Cooper Chemical and Materials Engineering ✶ Ian Crerar AICT ✶ Kenneth Crossman AICT ✶ David Cumming Obstetrics and Gynaecology ✶ Harry Davis Information and Privacy Office ✶ Jill Dawe Office of Interdisciplinary Studies ✶ Francine Day School of Public Health ✶ Diane DeLongchamp Libraries ✶ Nestor Demianczuk Obstetrics and Gynaecology ✶ Lise Desbiens Campus Saint-Jean ✶ Charles Dockstader Kinsella Research Station ✶ Patrick Doran Environment, Health and Safety ✶ Diane Dowhaniuk Chemistry ✶ Garry Drummond Ophthalmology ✶ Robert Dunham Ancillary Services ✶ Debra Elliot Educational Psychology ✶ Doris Ferguson Libraries ✶ Margaret Foxcroft Biological sciences ✶ Helen Futala Libraries ✶ Shareen George Extension—English Language ✶ Melody Gerber Occupational Therapy ✶ Sharon Giesbrecht Office of the Registrar ✶ Dong-Er Gong Medical Microbiology and Immunology ✶ Janice Gordon Human Resource Services ✶ Deborah Gougeon Office of the Registrar ✶ Rod Gramlich Physical Medicine and Rehabilitation ✶

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Services ✶ Trevor Stack Physical Education and Recreation ✶ Penny Slevinsky AICT ✶ David Smith Secondary Education ✶ Trudy Smith AICT ✶ Laura Snyder Libraries ✶ Colin Soskolne Public Health Sciences ✶ Gordon Spooner Family Medicine ✶ Walter Stadnyczuk Engineering Technologists ✶ J. Tracy Stallard Building Services ✶ Ellen Steil Engineering and Infrastructure ✶ Gary Stewart Maintenance Division ✶ Valerie Stockham AICT ✶ Edmund Sumbar AICT ✶ Daniel Syrotiuik Physical Education and Recreation ✶ Adam Szpacenko Chemistry ✶ George Thomtison Building Services ✶ Linda Thompson Physical Education and Recreation ✶ Harold Tischer Psychology ✶ William Tonn Biological Sciences ✶ Roger Toogood Mechanical Engineering ✶ Marc Truitt Libraries ✶ Sandra Ungarian Biochemistry ✶ Dima Utgoff Ancillary Services ✶ Barry Vall Augustana ✶ Jane Vallentyne Physical Education and Recreation ✶ San Vinh Medical Microbiology and Immunology ✶ Andrey Violette Dentistry ✶ Janice Wallace Educational Policy Studies ✶ Nada Walter AICT ✶ Flora Webber Sociology ✶ Rosann Whale Physics ✶ Grace Wiebe Arts ✶ Edward Wiebe Radiology and Diagnostic Imaging ✶ Barbara Wieland Biochemistry ✶ Eva Wong AICT ✶ Robert Wong Ancillary Services ✶ Lorraine Woollard Community Service Learning ✶ Janet Wright Clinical Islet Transplant ✶ Chan-Zhi Yao Surgical Medical Research Institute ✶ Ralph Young AICT ✶ Robert Zeitz AICT

700,000-year-old frozen fossil yields oldest genome on record

News Staff

When University of Alberta researcher Duane Froese found an unusually large horse fossil in the Yukon permafrost, he knew it was important. Now, in a study published in the journal *Nature*, this fossil is rewriting the story of equine evolution as the ancient horse has its genome sequenced.

Froese, a researcher in the Department of Earth and Atmospheric Sciences and Canada Research Chair in Northern Environmental Change at the U of A, had spent years visiting Yukon placer gold mining exposures to understand the permafrost and the ice age environments that supported megafauna including mammoths, horses and bison.

Unlike the small ice age horse fossils that are common across the unglaciated areas of the Yukon, Alaska and Siberia that date back over the last 100,000 years, this fossil was the size of a modern domestic horse. Froese had seen these large horses only a few times at geologically much older sites in the region—but none were so remarkably well preserved in permafrost.

Froese and his colleagues had dated the permafrost at the site from volcanic ashes in the deposits and knew that it was about 700,000 years old—representing some of the oldest known ice in the northern hemisphere. They also knew the fossil was similarly old.

On a hunch, the team extracted collagen from the fossil and found it had preserved blood proteins and that short fragments of ancient DNA were present within the



Duane Froese with the skull of the extinct Late Pleistocene horse *Equus lambei* in the Klondike area, Yukon.

bone. The DNA showed that the horse fell outside the diversity of all modern and ancient horse DNA ever sequenced consistent with its geologic age. After several years of work, a draft genome of the horse was assembled and is providing new insight into the evolution of horses.

Yukon paleontologist Grant Zazula, a contributor to the study, showed that the horse fell within a line of horses that includes all modern horses and the last remaining truly wild horses, the Przewalski's horse from the Mongolian steppes. Zazula notes that the discovery of the fossil "is testament to the remarkable archive of natural history in Canadian permafrost."

Also remarkable was that the ancient DNA survived so long. "It bends, if not breaks, the rules that govern DNA decay and pushes back the time in which DNA is recoverable by nearly an order of magnitude," said Beth Shapiro, an

evolutionary biologist and ancient DNA expert at the University of California, Santa Cruz, and collaborator in the study. "Had it not been frozen for the entire duration of that 700,000 years, I doubt that any recoverable DNA would have survived."

"The discovery of the fossil is a testament to the remarkable archive of natural history in Canadian permafrost."

Grant Zazula

The 700,000-year-old horse genome—along with the genome of a 43,000-year-old horse, six present-day horses and a donkey—has allowed the research team to estimate how fast mutations accumulate through time.

This work, led by researchers from the University of Copenhagen, has revealed that the last common ancestor of all modern equids (including donkeys, horses and zebras) lived about 4 million to

4.5 million years ago—an evolutionary timeline reaching back twice as long as previously thought.

In addition, the new genomes revealed episodes of severe demographic fluctuations in horse populations in phase with major climatic changes, including severe losses in diversity during previous warm periods in the Arctic and when horses were domesticated.

The results also solved a long-standing mystery about the evolutionary origin of Przewalski's horse. This horse population—which shows striking physical differences from domesticated horses, including an extra pair of chromosomes—was discovered by the Western world in the second half of the 19th century and rapidly became threatened. It almost became extinct in the wild by the mid-1950s but survived after massive conservation efforts. The researchers revealed that the Przewalski's horse population was isolated from the lineage leading to present-day domesticated horses about 50,000 years ago. They also showed that pure Przewalski's horse lineages are still living today. This suggests that the Przewalski's horse is likely genetically viable and therefore worthy of conservation. ■

Ecologist luring citizen scientists into fish research

Bev Betkowski

University of Alberta researcher Mark Poesch is hoping Albertans will help him further his research by sharing their fish stories with him.

Poesch, an assistant professor in the Department of Renewable Resources, wants to include "citizen scientists" in his lab's work, which focuses on aquatic conservation and fisheries management. Including everyday folk in the research process can make it more robust and focused, Poesch believes.

"As scientists, we can't be everywhere at once, and citizens have a strong local knowledge that we as researchers can tap into. There are a lot of wide open spaces and we can't cover them all. Hearing from citizens who are out in the field helps us understand the issues occurring in the waterways, long before they become urgent."

As the July long weekend kicks off, Poesch hopes that all urban and rural anglers, canoeists, swimmers, hikers and river hobbyists in Alberta—and the rest of North America—log their fish sightings and photos on the Poesch Lab website. The site has three interactive tools that allow people to report a fish, take an angler survey and provide their traditional knowledge.

such as endangered species or unusual fish, which could indicate the presence of invasive species like Prussian carp, not normally found here. "Anglers can be an amazing resource. Many of them keep blogs, and we as researchers are starting to tap into that knowledge," Poesch added.



Mark Poesch and his research team go to work at a wetland in south Edmonton.

Such knowledge, even on an informal basis, can give Poesch and his team early signals that help direct research efforts—studying a certain geographic area, for instance. "It's a good reporting tool. The first people who notice the trends of decline are the people on the ground."

Alberta's water resources are a popular source of recreation, he noted. "We have the highest ratio in Canada of anglers to waterways, more than 350,000 fishermen for 800 lakes in the province."

Bringing the community—citizen scientists—into research efforts is a vital component for success, he believes.

"We should leave that mentality of the academic ivory tower behind and include communities and citizens in the scientific process, because they have a vested interest in resources like water and fish populations."

People who log their finds and fill out the surveys on the website will receive a certificate of appreciation from Poesch's lab. They can also submit their fishing photos for posting on the website's gallery. ■

"We should leave that mentality of the academic ivory tower behind and include communities and citizens in the scientific process, because they have a vested interest in resources like water and fish populations."

Mark Poesch

"We were getting a lot of inquiries from fishermen," said Donnette Thayer, one of Poesch's master's students and the web developer. "They would find something unusual, but they didn't know who to tell. Many people want to help researchers; they just don't know where to go."

Sharp-eyed hobbyists can help describe whether fish numbers seem low or high and report sightings



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From despair to renewed hope at -60 C

Louise McEachern

The Arctic tundra is an often romanticized region of the world, as typified through the voice of author Pierre Berton, where intense 100-kilometre-per-hour winds, -60 C temperatures, bright dense summer flora and immense nine-kilogram Arctic char create imagery associated with the spirit of the Canadian explorer, a place where beauty meets endurance and humankind meets itself.

Those elements do exist in the small hamlet of Kugluktuk, Nunavut, but there also exists a set of stark and contrasting realities for those who live in geographic and social isolation for most of the year. It's a place where, for many, 10 or more family members might live in a small bungalow built on stilts, where 20 hours of darkness per day and few economic opportunities segue into indifference, immobilization and dark choices.

When Russ Sheppard arrived in Kugluktuk in 1998, with an education degree from the University of Saskatchewan and a desire to make a connection with students, he was unprepared for the profound misery and hopelessness that faced the youth and the community. Chronic cycles of family drug and alcohol abuse, domestic violence and low class attendance at the local high school were prevalent. Over several years, the suicide rate in Kugluktuk was the highest in Canada—and in February of 2000, a rash of six suicides in a school of 135 students placed the entire community to the brink of numbed oblivion.

"I knew something needed to be done," said Sheppard, a graduate in the Faculty of Law's class of 2013. "The question was what. I was here. I was in this. Something needed to change their mindset.... The kids needed to care about life again."

Nurturing a meaningful connection and establishing a solid rapport with the students was critical. "I was a 'southern' teacher with western ideologies about teaching. I had to learn how to become a 'northern' teacher with a different mindset," said Sheppard. "They needed to trust that hope existed and that something could transform their circumstances." That connection developed over time and wasn't easy, but "they were ready, they were waiting for something."

The solution came from an unlikely source—the sport of lacrosse.

"We needed to find a way to combat the negative forces that plagued the community," said Sheppard. And with that goal in mind, the Grizzlies Lacrosse Team was born.

Although the sport was the catalyst that propelled the transformation, it was also part of a holistic approach to a program that included both significant and incremental changes. Students who wanted to participate on the team were required to fulfill three criteria in the Stay-in-School Grizzlies Lacrosse Program: 80 per cent attendance or better, weekly performance logs including effort assessment, and participation in developing a social enterprise program as a means of training and fundraising.

The results changed the landscape of the school and the community. In the inaugural year of the Grizzlies program, attendance exploded from 20 per cent to nearly 100 per cent. Slowly, student morale was shifting and the new community-wide prominence of the lacrosse stick had become a prevalent symbol of hope.

Most notably, between 2001 and 2006, there were no suicides.

The social enterprise component of the program flourished when the students participated in managing the concession stand at the local rink as part of the newly formed Grizzly's Den Arcade—an enterprise Sheppard founded. He managed operations and

administered \$500,000 in gross annual profits, with a net annual profit of \$52,000 going into youth recreation programming.

The students also created a team logo, ordered jerseys and equipment, and used some of the funds they raised to travel outside of town to compete in tournaments locally, provincially and nationally.

It was not only what they were accomplishing that helped propel the radical shift, but also what they had



Russ Sheppard

to overcome and endure to achieve it. An increase in positive school connections resulted in stronger familial and community ties, reduced student vulnerability to negative forces such as drug and alcohol dependency, and reduced risk of perpetuating the cycle of dependency and domestic violence.

The students learned that everyone had a meaningful purpose and a role to play that contributed to the overall well-being of the individual and the group. In 2006, the team travelled to Winnipeg to participate in the national lacrosse championships.

Sheppard also created the Kugluktuk High School Athletics Association to promote to students the value of school attendance, positive lifestyles and opportunities through sport.

Other unexpected successes arose out of this transformational experience. Sheppard received numerous awards for his outstanding accomplishments, including the Queen's Diamond Jubilee Medal in 2012, the Sport Nunavut Coach of the Year award in 2004 and the Business Development Bank of Canada's Youth Entrepreneur Award in 2003.

“You really have to push yourself to the brink, because you never know what you are capable of.”

Russ Sheppard

He was invited to speak at several conferences. He was the keynote speaker for the U.S. Lacrosse Federation in 2004, and presented for the Six Nations Police Force in Ottawa in 2004 that focused on positive ways to transform a group. And in 2005, his story was told in an ESPN SportsCenter feature.

After his life-changing seven years in Kugluktuk, Sheppard was preparing for a career transition. He spent a few years in the Edmonton Public Schools system and some time in southern Ontario, but was searching for a new challenge.

After much contemplation about next steps and with a profound desire to renew his sense of place in the world, he decided that a career in law would afford him the flexibility he was searching for on many levels. It could help him achieve a different perspective and a different way of thinking, dismantle barriers, and allow him some flexibility to control the "what and the where" of his career direction.

During his time at the University of Alberta's law school, Sheppard's principal interest was in Aboriginal law, and in his last year at the school he had been working with professor Catherine Bell on an Aboriginal negotiation competition.

In May, he, along with his wife Maxine, who is an agrologist, and their two children, headed to Cranbrook, B.C., where he is articling with Rockies Law.

He also signed a life rights agreement with Northwood Productions, which grants permission to tell the story of his transformational relationship in Kugluktuk. Filming is currently in pre-production.

He says the experience has left him inspired and humbled.

"I found myself to be much more self-aware about who I am and who we are. It's real, it's emotional. You really have to push yourself to the brink, because you never know what you are capable of." ■

Congratulations to our 2013 Teaching Awards Recipients

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Teaching Unit Award

FIELD STUDIES IN TROPICAL ECOLOGY
Doris Audet and David G. Larson, Augustana



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Russ Sheppard with the Grizzlies Lacrosse Team

Study takes oil out of troubled waters

Brian Murphy

University of Alberta mechanical engineering researchers have shown that a simple glass surface can be made to repel oil underwater. This has huge implications for development of a chemical repellent technology for use in cleaning up oil spills.

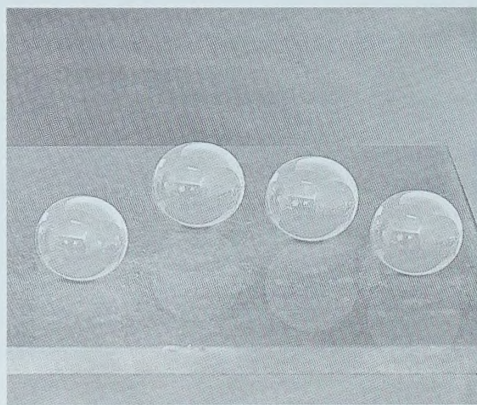
At the time of spills, marine flora and fauna may come into contact with the oil, wreaking major damage. Underwater oil-repellent technology can potentially prevent the toxic effect of oil on marine ecosystems.

Lead U of A researcher Sushanta Mitra and his team members Prashant Waghmare and Siddhartha Das used surfactants, a key ingredient in soaps and detergents, as a way of making an underwater glass surface repel oil. The researchers propose that making use of this simple principle, large concentrations of surfactant can be added to oil-contaminated water, thereby ensuring that marine plants and animals exhibit similar oil-repellent characteristics and enabling them to overcome the deadly consequences of an oil spill.

Mitra says the most important step in demonstrating this property of surfactants is to ensure accurate deposition of an oil drop on the underwater glass surface. The U of A team came up with the first possible technique to reliably and controllably deposit oil drops on such underwater surfaces.

Mitra and his U of A team published two papers related to their findings. The technique related to the injection of oil on a surface beneath the water was published in the journal *Soft Matter*, a publication of the Royal Society of Chemistry, and will appear as a cover article in the upcoming issue.

The research revealing the effect of surfactant in making an underwater glass surface extremely oil-repellent was published in the journal *Scientific Reports*. ■



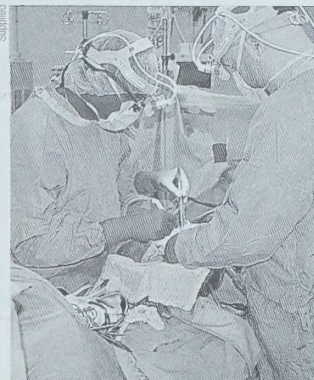
Oil droplets bead on a submerged glass surface. U of A researchers developed a way to make the glass repel oil, a discovery that could lead to new technologies for cleaning up oil spills.

U of A on list for lung transplant research trial

Raquel Maurier

Clinicians in the Faculty of Medicine & Dentistry are participating in an 18-centre, international research trial to examine the effectiveness of a new technology on health outcomes for lung transplant patients. The Edmonton site is the only centre in Canada taking part in the industry-led trial.

The INSPIRE trial, led by U.S.-based TransMedics, involves technology to oxygenate and possibly repair donor lungs leading up to transplant. The company's goal is to enrol 264 patients in a randomized, controlled trial that will compare two transplant methods—putting donated organs on ice prior to transplant versus using the company's technology to oxygenate and repair organs (through such methods as delivering antibiotics, removing secretions and inserting stem cells). The trial will examine patients' recovery time and quality of life after transplantation in both groups. The technology may make organ transplantation more effective and safer in the future.



U of A clinicians are taking part in a research trial of transplant technology.

The faculty joined the research trial this spring thanks to various partnerships. TransMedics donated

the portable hardware equipment to the faculty's Alberta Transplant Institute (ATI) and Alberta Health Services.

"Because members of the faculty chose to take part in this research trial, Albertans desperately waiting for a lung transplant will have access to the latest medical technology that could improve their recovery time and quality of recovery," said Atul Humar. "This is an example of how faculty research makes a real difference and positive impact in the everyday lives of Albertans—by improving their health and giving them the gift of time."

To date, 139 patients have taken part in the trial, including two from Edmonton. The remaining patients are from Canada, the United States, Europe and Australia. The trial, which started in 2012, will wrap up at the end of this year. Interim results from the trial's first 100 patients are encouraging.

In addition to the international research trial, the ATI and Alberta Health Services are using the technology to try to improve the viability of donated lungs, to make them more suitable for transplants. The ATI and the University Hospital Foundation together donated more than \$500,000 toward this clinical advancement. The foundation committed \$350,000, which reflects its long-term commitment to advancing the transplant program; in 2005, the foundation contributed \$1 million to establish the ATI.

Each time the technology is used, the donated organ sits in a chamber with connections to ventilators and other hardware. The chamber needs to be replaced for each transplant. The funding will pay for 10 or 11 chambers over the course of a year.

"If we can oxygenate and perfuse donated organs and improve their function to the point they are useful and you can transplant them, it could increase the number of viable

organs for transplants in Alberta. This means more transplants could be performed in the province, and that is wonderful news for Albertans awaiting transplants," says Humar.

"This is an example of how faculty research makes a difference and positive impact in the everyday lives of Albertans."

Atul Humar

Currently 30 to 40 lung transplants are performed annually in Alberta. This number could be higher as the majority of organs donated for transplant can't be used; 80 per cent of donated lungs are considered not suitable for transplantation. However, TransMedics technology has shown to improve organs turned down by hospitals to the point where they could be used for transplant. Organs donated from B.C. set a record for the longest stretch of time that organs have been outside the body prior to a successful transplant—10.5 hours in the TransMedics chamber technology. The previous record was between seven and eight hours.

"This funding allows us to use the latest technological advancements in transplantation so we can try and save the lives of more patients," says Jayan Nagendran, researcher in the Department of Surgery and lead cardiac thoracic surgeon involved in the trial. "With this technology, we can start repairing and oxygenating the donated lungs moments after they are removed. This starts the repair process immediately and decreases the risk of injury to the organs, which can occur while organs are cold and stored in ice for hours." ■

Dr. Kickstarter: How the crowd can push research into application

Omar Mouallem

University of Alberta chemistry professor Michael Serpe has no problem saying he's trying to solve the world's problems. He also has no problem turning a jar of stinky white powder (a nearly unpronounceable polymer) into a biosensor that could change colours under the influence of disease markers or environmental toxins—a potential solution that may be able to predict diseases and track contaminants within two years. That's the easy part.



Michael Serpe

The hard part, he says, is connecting his discovery research with the people who can bring it to market.

"I really think it's a universal problem," says the leader of the Serpe Research Group at the U of A, which is focused on polymer application. "We don't know what the industry needs or wants, and vice versa—industry doesn't know of our capabilities and what we're willing to collaborate on."

Even though he was one of 15 applicants to win \$100,000 from Grand Challenges Canada—a competition hoping to send first-place ideas to third-world countries—Serpe views this disconnect as his real grand challenge.

Enter Reg Joseph, a young professional with loads of experience working for the NASDAQ-traded corporation Life Technologies (formerly InvitroGen). There, his job was to lead academics to the invisible hand. Now the CEO of U of A biotech offshoot Metabolomic Technologies, Joseph met Serpe through a "blind date" set up by a colleague.

"There was no angle other than he's finding cool stuff—and you should talk because you know about business and commercialization," recalls Joseph.

The connection was a sort of discovery research in itself, and the direct translation has been to create a network of industry and academic people who might connect like the antigens and antibodies in Serpe's polymers.

Last August, they hosted a mini-conference on diagnostic innovation at the university. "I wanted everybody together," said Serpe. "The people who hold the purse strings, the people who need the technology and the people who develop it. The grand goal was to find ways that we can collaborate and get money from our governments to collaborate on research to solve big problems." He pauses. "We didn't get there."

Though it hasn't yet yielded the success he hopes for, he's confident he'll get there—and is kicking around some other ideas in the meantime.

Trying to avoid grant systems that reward only the boldest application promises and force researchers to make their proposals "sexy" for funding, Serpe wonders whether the future might lie in micro-funding systems similar to those artists use to crowdsource money, like Kickstarter. But until then, he's found that going to business events—"even those that seemed out of place"—has been most fruitful. He already has a few interested partners from separate fields that see possibilities in his polymers that he never could. ■

The hard part is connecting discovery research with people who can bring it to market.

Board approves \$13.4M reno for Students' Union Building

Michael Brown

The University of Alberta Board of Governors has given the go-ahead to a \$13.4-million facelift of the Students' Union Building.

The Students' Union Building: Addition and Renovation project encompasses the construction of an atrium and plaza on the south side of SUB and extensive renovations planned for the lower level, along with renovations to the third, fourth and sixth floors.

The project is intended to provide enhanced facilities for student engagement activities, and to improve the overall functionality and viability of the facility and surrounding open spaces. The project will create 250 square metres of new interior space and 723 square metres of programmable exterior plaza space, and will renovate 3,665 square metres of interior space.

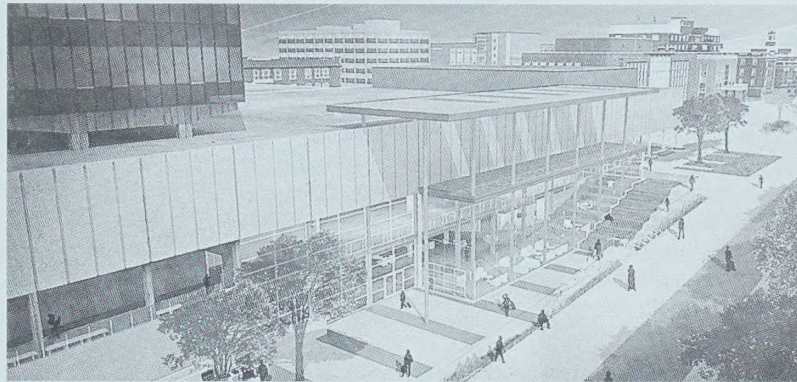
Funding for the project will be provided through a student levy that was approved in March 2013 through a student referendum, and an annual contribution from the Students' Union's continuing operations. In addition to the fee and the annual operating allocation, the Students' Union will

provide additional direct one-time financial support of up to \$400,000. This will be financed through donors and direct allocations from Students' Union building reserves. The Students' Union is working directly with Facilities and Operations to determine whether there is an opportunity to leverage funding for qualified project elements through the Energy Management Program.

"SUB is the centre of campus. It's the heartbeat of all the services and social services we provide to students," said Petros Kusmu,

Students' Union president, who added enrolment at the U of A has more than doubled in the 46 years since SUB was originally opened. "This is just us trying to keep up to date and make sure the services we provide to students are nothing short of excellent."

Detailed design has just been completed and contract documents are in the process of being developed. Construction on the project is expected to commence in September with an anticipated completion date of August 2014. ■



Artist's rendition of renovated Students' Union Building.

Addressing needs

The Students' Union Building Renovation and Addition project will:

- improve the ability of the facility to meet the strategic needs of the university and the Students' Union
- improve accessibility and visibility of student services
- create a student involvement centre to encourage student involvement in both the university and wider communities
- provide greater resources and support to student groups
- provide needed additional social, relaxation and study space to students
- improve the functioning of SUB as a community centre for campus
- assist in addressing the long-term maintenance of SUB
- transform the usability, accessibility and quality of lower-level space
- further enhance and transform the campus's major east-west pedestrian and activity spine, which runs from 110 Street to 116 Street

Honouring the next generation of Aboriginal health leaders

Bryan Alary

Alyssa Biasini was just one of those kids—the kind that loved learning and begged to go school even when sick. She also dreamed of going to the University of Alberta, and later, pursuing a career in health care.

With a little help from the Faculty of Medicine and Dentistry's Indigenous Health Initiatives program, she's accomplished both to become one of the first members of her family with a university degree, let alone a doctor of dental surgery. Her ancestry on her mother's side is Blackfoot, from the Blood Tribe, so it's a special feeling to land her first job practising in Hobbema, with plans to also work at a newly renovated clinic in Saddle Lake.

"There is a great need for care in our Aboriginal communities.



Elder Francis Whiskeyjack performs an honour song for medicine and dentistry graduands during the 2013 Indigenous Health Celebration and Awards June 14.

Oral health is very important but sometimes that gets missed in these areas," she said.

When she arrived at the U of A, Biasini hadn't heard of the Indigenous Health Initiatives

program but knew she wanted a career in health care. She got involved in her second year and through the program learned about dentistry and the varied career options available.

"It seemed like a great career," she said, and at first envisioned working in remote parts of the developing world before realizing she could do good work closer to home. Through the program, Biasini got to work with Aboriginal youth from across the province, talking to them about oral health and how resources like the Indigenous Health Initiatives program could make their dreams possible.

About to mark its 25th year, the program is designed to increase the representation of Aboriginal students in health-care professions. Spots are reserved for top qualifying students—five in medicine and one

each in medical laboratory science, dentistry and dental hygiene.

"It was a very spiritual experience and very exciting to share—a great way to honour our culture."

Alyssa Biasini

"Part of our responsibility is to reach out and inspire children from First Nations, Métis and Inuit communities, help them dream to finish high school, go to university and strive for medical school," said Jill Konkin, associate dean in the Division of Community Engagement, which oversees the program.

"It's incumbent upon us to become more engaged with these communities—the need for health care and access to health care in most of our Aboriginal populations is significant."

The program celebrated the accomplishments of its latest graduands with a special ceremony and awards luncheon June 14. The event featured a traditional Métis sash and eagle feather honouring ceremony by elders, and awards presentations.

For Biasini, the event marked an opportunity to connect with her First Nations heritage, sharing the experience with her mother and grandmother. It was a journey years in the making, one she's glad happened at the U of A.

"It was a very spiritual experience and very exciting to share—a great way to honour our culture." ■

Intern a poster child for the Jurassic Park generation

Jennifer Kuchta

How do you nurture a childhood passion for ancient creatures into a career? Like so many children, Shannon Kraichy discovered her love for dinosaurs at an early age. "Most kids grow out of the dinosaur phase, but I never did. So naturally, I wanted to be a paleontologist when I grew up," she says.

A self-professed child of "the Jurassic Park generation," Shannon was drawn to the University of Alberta's paleontology program, based on its international reputation, renowned faculty and staff, and unique offering of field schools at the undergraduate level. She graduated with a BSc this spring, but her journey is just beginning.

"I only recently discovered how I want to use my paleontology degree," she says. "My real 'aha' moment came when I looked back at my previous work and volunteer experience. I realized I was already doing what I loved—teaching the public about prehistoric life."

She found herself gravitating toward jobs and experiences such as leading museum tours and hikes to fossil sites. "That's what led me to museums," she says, noting they're the perfect forum to share her knowledge.

Shannon is spending the summer months with the central campus team of museum professionals as a successful candidate in the Friends of the University of Alberta Museums Summer Internship.

"We are delighted to have Shannon as one of our interns this year," says Janine Andrews, executive director of the U of A Museums. "It's inspiring for our staff to get a fresh perspective every year from such accomplished students."

The internship will give Shannon hands-on experience with the U of A's internationally renowned museum collections, working in collections management, conservation, research, exhibitions, programming and community engagement.

Shannon credits her experiences at the U of A for motivating her to pursue a career in paleontology and museums. "So many of my professors have been amazing influences on me," she says, noting in particular Philip Currie, curator of dinosaurs, and Lindsey Leighton, curator of invertebrate paleontology. "Growing up, I only heard about male paleontologists, so it was so inspiring to see women could be extremely successful scientists in a still male-dominated field," Shannon notes, mentioning Alison Murray (curator of the U of A Museum of Zoology), Eva Koppelhus, Angelica Torices, Miriam Reichel and Victoria Arbour.

Just as her professors have done for her, Shannon's goal is to inspire future generations with her passion for paleontology. She is enrolled this fall to study a master's in museum education at the University of British Columbia. "Museum education offers me such a dynamic and flexible future," she says. "This program mirrors the changed role of museums as simply 'places to store objects' into exciting places to educate



Shannon Kraichy will get a chance to share her passion for paleontology during her internship with University of Alberta Museums this summer.

and engage the community, focused on all age groups, in any setting."

To those aspiring to follow in her footsteps, Shannon has this advice: "Get involved, but in things you love doing." In her "spare" time on campus, she volunteered as both VP internal of the Aboriginal Student Council and VP external of the Paleontological Society. "My involvement in the community has opened so many doors and connected me to wonderful people, but only because I had a passion for what I was doing." ■

news [shorts]

folio presents a sample of some of the stories that recently appeared on the [ualberta.ca news](http://ualberta.ca/news) page. To read more, go to www.news.ualberta.ca.

Klohn Crippen Berger establishes grad scholarship

The Geotechnical Centre recently celebrated the establishment of the Earle Klohn Graduate Scholarship in Geotechnical Engineering. Klohn Crippen Berger Ltd. president and CEO Bryan Watts and scholarship namesake Earle Klohn presented the inaugural award to Nicholas Beier, a PhD candidate in the Department of Civil and Environmental Engineering.

Klohn Crippen Berger donated \$250,000 to create an endowment fund that will provide scholarships to outstanding students pursuing graduate research on the geotechnical behaviour or the environmental impact of mine tailings. The scholarships, valued at a minimum of \$5,000, pay tribute to Klohn's renowned career in the design and construction of tailings dams, specifically in the design of embankments and foundations for heavy industrial developments.

Klohn, who graduated from the U of A with bachelor's and master's degrees in civil engineering, recognized the university's strong history of education, training and mentoring of geotechnical engineers. "I am honoured that [Klohn Crippen Berger] would do something like this for me," he said.

Craddock helps Canada to bronze

Basketball coach Barnaby Craddock helped Canada's Cadet Men's National Team to a bronze medal performance at the FIBA Americas U16 Championship for Men held this past weekend in Uruguay.

Craddock, who just completed his first season behind the Golden Bears' bench, was an assistant coach with Canada's cadet team. The team went 3-0 in the opening round games, including a 22-point win over the hosts, before losing to Argentina by a single point in overtime in the semifinals. The Canadians were able to bounce back in the bronze medal game, however, and defeated Puerto Rico 62-50 to claim the third podium position at the international tournament.

The Cadet Men's National Team will now set its sights on the 2014 U17 FIBA World Championship for Men. Canada had already clinched a berth in next year's premier under-17 basketball event after completing the qualifying round with a perfect 3-0 record.

Craddock and the Golden Bears begin the 2013-14 regular season November 1, and will play their first home games over the November 8-9 weekend.

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PhD student self-talks way into prize

Michael Brown

Participating in exercise-based rehabilitation has been shown to improve the quality of life of people with lung diseases, and reduce health-care costs.

Unfortunately, many people do not continue to exercise once rehabilitation is over, losing the health benefits accrued during rehabilitation.

Now a PhD student in the Faculty of Physical Education and Recreation is looking into the possibility of using a clinical psychology technique to see whether it can help change people's thought processes and behaviour when it comes to exercise.

Anne-Marie Selzler is the recipient of a three-year, \$105,000 CIHR Frederick Banting and Charles Best Canada Graduate Scholarship to study the benefits of self-talk in getting people who are recovering from chronic obstructive pulmonary disease to continue exercising once their pulmonary rehabilitation is done.

Selzler explains self-talk constitutes the words and phrases people use, either out loud or silently, to convey their thoughts and feelings with themselves. "Essentially, self-talk is a way that we can communicate with ourselves."

Research has shown that self-talk is a technique that can influence behaviour, and in fact many psychologists and sports psychologists focus on bringing awareness to this phenomenon. She says to date, however, the effectiveness of self-talk has not been scientifically studied in the exercise adherence domain.

"Many studies have found that although people with chronic obstructive pulmonary disease exercise while they are in rehabilitation, and that exercise is helpful for the

management of their disease, once rehabilitation has ended, many of them stop exercising and go back to their sedentary lifestyles," she said. "This phenomenon is seen in many other exercise-based rehabilitation contexts such as cardiac rehabilitation."

Selzler says she first became interested in self-talk while failing to modify her own organizing behaviour as part of a term project in a behaviour modification class she took as an undergrad at the University of Northern British Columbia.

"After unsuccessfully trying to increase my scheduling and planning behaviour, I had a bit of an epiphany and realized that how I was talking to myself about scheduling was keeping me from doing the scheduling itself," said Selzler, who adds she immediately saw the benefits of self-talk. "It helped me, and maybe it might be able to help others, too."

"People come here from all areas of the world and pursue interesting and innovative research. I really like being a part of that."

Anne-Marie Selzler

Selzler says self-talk is an appealing intervention technique because it is something that people already use and requires few resources to deliver.

"Simple, inexpensive and cost-effective techniques to help increase exercise participation are needed. Self-talk may be a technique that fits those criteria, and my research will help determine if this is the case."



Anne-Marie Selzler

Looking for the best place to undertake a master's degree in this field of study at the crossroads of mind and body, Selzler chose the U of A.

"After being here and meeting Dr. Wendy Rodgers (social psychology of exercise professor), I knew that the U of A was the right place for me. I really just went on a gut feeling, and I think it's turned out well for me," said Selzler, adding she was taken with the culture at the U of A.

"People come here from all areas of the world and pursue interesting and innovative research. I really like being a part of that."

Frederick Banting and Charles Best Canada Graduate Scholarships provide special recognition and support to students pursuing doctoral degrees in a health-related field in Canada. The U of A's other Banting and Best prize winner, Daniel Prins, a PhD student in the Department of Biochemistry, received \$81,667 over three years for his project entitled Regulation of Store-Operated Calcium Entry in Cancer. ■

talks & events

Talks & Events listings do not accept submissions via fax, mail, email or phone. Please enter events you'd like to appear in folio and at www.news.ualberta.ca/events. A more comprehensive list of events is available online at www.events.ualberta.ca. Deadline: noon one week prior to publication. Entries will be edited for style and length.

JULY & AUGUST, EVERY WEDNESDAY

Join the Office of Sustainability for a free walking tour of North Campus and discover some of the features that make the U of A a leader in campus sustainability and earned the institution a STARS Silver rating this past spring. Discover how the university produces 30 per cent of its own electricity, where thousands of pounds of food scraps end up every year, how the sun's energy helps power certain trash cans, and more. Register at <http://svy.mk/1004fCa>. Registration closes the Tuesday prior. Noon to 1 p.m. 1-173 ECHA.

UNTIL JUNE 29

U of A Museums present SIZE MATTERS: Big Prints From Around the World. From miniature to monolithic, artists have been playing with scale for thousands of years. SIZE MATTERS features the work of contemporary printmakers—working in media as diverse as woodcuts and digital prints on fabric—from Canada, the United States, Finland, Japan and beyond, who all have one thing in common: they like to think big. Enterprise Square.

UNTIL JULY 6

before and again: Justin Ogilvie. This exhibition is the final visual presentation for the degree of master of fine arts in painting. FAB Gallery.

JULY 10, 17, 24, 31

TLS Concept and Course Design Series. The Centre for Teaching and Learning is pleased to offer the TLS Concepts and Course Design Series throughout the year. Participants will develop an understanding of the principles of course design, enabling them to apply discussed concepts to their own teaching practice. Register at utsregistration.ualberta.ca.

JULY 17

Planes, Trains & Automobiles: High Level Bridge Streetcar. Ride the rails with us and learn about Edmonton's streetcars. Enjoy a guided tour of the Streetcar Museum and have an exclusive look at the restored streetcars of the Edmonton Radial Railway Society. Then board the streetcar for a breathtaking view and fascinating anecdotes of

Edmonton's history by city archivist Kathryn Livaly. Light snack provided. Children 10 and up are welcome. 7-9 p.m. Strathcona Streetcar Barn, 103 Street and 84 Avenue. \$5 per person. For more information, email katy.yachimec@ualberta.ca or call 780-492-6530.

JULY 18

Moodle Drop-In Session. Moodle drop-in sessions are intended for individuals who have taken Moodle Basics training and require assistance with their individual courses. A CTL staff member will be available during the specified time for faculty to drop in to the computer lab to receive one-on-one assistance with their courses. This can include discussion regarding the design of a course, use of different tools, setting up grade books and assisting with rearranging content migrated from Vista. We ask that individuals sign up for the drop-in sessions so we can anticipate demand and have the appropriate number of staff available during the sessions. 2-4 p.m. 1-30 Cameron Library. Register at utsregistration.ualberta.ca.

JULY 23

Student Engagement Strategies for the Large Classroom. Research shows that many students are not actively engaged in their large classes. Implications of this include reduced academic achievement, low attendance and high attrition rates. But there is hope! In this session we will review evidence-based strategies and innovative strategies from across our campus to encourage active learning in large classes. 10:30-11:30 p.m. 217/219 TELUS Centre. Register at utsregistration.ualberta.ca.

JULY 31

Breton Plots Field Day 2013. Come get a tour of the Breton plots near the village of Breton, 100 kilometres southwest of Edmonton, and take part in lively discussions and lectures on topics such as the nutrients in John Deere Green, the benefits of pulse crops in cropping rotations, faba beans, how to think like a plant to grow more yield, and much more. 11 a.m.-4 p.m. Breton Community Centre. Cost is \$25. Lunch will be served at the Breton Community Centre. Register at tinyurl.com/kyepmc2.

No checkered flag at finish line but race team finds silver lining

Richard Cairney

A team of University of Alberta engineering students has returned from an international race-car competition in the United States inspired to take their car to the next level at an upcoming competition in Germany.

“The U of A is a powerful proving ground. It's a great place to find great engineers.”

Calvin Austrom

Shawn Stevenson, team lead of the university's Formula Society of Automotive Engineers (FSAE) race car team, says the group gathered important experience and data on its new car at the Formula West competition in Lincoln, Nebraska, June 19 to 22.

The team hoped to finished in a higher position than it did, coming in 26th place overall, out of entries from 100 universities.

The U of A team did receive some positive results. It was one of only 27 cars that made it into the final endurance race, and it placed seventh overall in the design category.

Stevenson says the team didn't have time to do much testing of their design before heading into the competition—otherwise it would have placed even higher in the design category. “The judges recognized that our car has a lot of potential and that we put a lot of effort into design—but our biggest problem was lack of testing,” he said. “They want to see you design something, predict what will happen when you take the car on the road, then show what happened and even if there are discrepancies between what you predicted would happen and what did happen, it's OK as long as you know why, and what you did about it.”

Student teams in the FSAE events design, build and race their formula-style cars. Non-driving categories they are judged on include presentations that cover the design, the business plan and the costs associated with the project.

Stevenson says the team will take the next few weeks to fine-tune the car, resolving a variety of “small problems” before heading to Hockenheim, Germany, in August to give



Engineering alumnus Graham Kawulka, a member of the Faculty of Engineering's first FSAE race team, is all smiles as he checks out the 2013 team's car.

the team a second chance to see their car's full potential.

The U of A team has fared quite well at FSAE competitions in the past. In 2011 it placed seventh and in 2010 it placed fourth. Last year the team was devastated when the car's chassis was deemed unfit for race conditions.

Team members turned the bad news into an opportunity to improve their game, with a core of about 16 members putting in an estimated 6,000 hours of work on the car over the past year.

The car has a top speed of about 100 km/h but is built for quick acceleration and tight cornering. The vehicle weighs 314 lbs., is powered by a 418 cc gasoline engine and can pull 1.5 G in a corner.

Engineering students who work in student clubs and projects form strong bonds and learn from one another—and the FSAE team is no exception: even alumni from the team show up for the car's unveiling.

Mechanical engineers Graham Kawulka and Calvin Austrom graduated from the U of A engineering program in 2002 and were members of the first FSAE race team. To this day, they feel a bond with the team. Being part of a group like FSAE helps students learn more than they do in classrooms and gives them opportunities to apply their knowledge to real-life engineering challenges.

“The U of A is a powerful proving ground,” said Austrom. “It's a great place to find great engineers.” ■

Teaming up to promote healthy kids in First Nation communities

Sandra Kinash

Four First Nation communities are collaborating with University of Alberta researchers on the First Nation Child Development project.

This collaboration, over the past two years, has looked at healthy child development from a community perspective. Community partners provide crucial guidance and knowledge that contributes to the success of this project. This collaborative project is also giving valuable research training and experience to students at Yellowhead Tribal College (YTC) and graduate students at the U of A.

The project is a community-based research partnership between four Yellowhead Tribal Council communities, the Community-University Partnership for the Study of Children, Youth, and Families (CUP) in the U of A's Faculty of Extension, and Yellowhead Tribal College.

Tyson Frencheater, Jeannie Paul and Garrett Strawberry are students from the college who are assisting with the project.

Last fall, these three students, along with eight others, enrolled in a community-based research course offered at the college and developed in collaboration with CUP. After completing the course, the trio

joined the research team as student research assistants. This gave them hands-on experience with the data collection, analysis, interpretation and communication processes in the project.

“It will help focus on bringing tradition back to the communities.”

Tyson Frencheater

Paul, also a U of A student in the Faculty of Native Studies, was surprised to learn how practical community-based research is.

“This is all research but you wouldn't think so. I find it different from researching a paper. This is really hands-on and catches my attention. The researchers encourage your input here and ask for your interpretation,” she said.

Seaneen O'Rourke, dean of programs at Yellowhead Tribal College, sees benefits of the project for the college and its students.

“This project made sense for YTC because the students are also community members. It provides them the experience of engaging with the community and doing research,” said O'Rourke. “It is giving

them experience they can put on their resume and then gain more senior experience. If any of them choose to do graduate work, it is such an advantage.

“These types of partnerships are really important for YTC because it will help us develop research capacity,” O'Rourke added. “We are not a research institution as such, but a small institution that offers certificates and diplomas on our own. This kind of research strengthens and develops existing relationships between the college and the communities.”

The research, led by CUP assistant director Rebecca Gokiart, looks critically at traditional forms of early childhood development assessments and explores ways to include the unique aspects of community values, cultural context and spirituality that are important in raising healthy young First Nation children.

Both Strawberry and Frencheater think this project will help their communities strengthen supports for healthy child development.

“There's culture that is being lost. This measurement will show that some of the kids need to learn in certain areas—especially the language,” said Strawberry.

“This project can benefit the children by possibly taking our native tongue to the next level. It's kind of been lost for generations,” said Frencheater. “It will help focus on bringing tradition back to the communities and on finding mentors to support children who will be the next generation.”

Collaboration and learning for the students is a two-way street. Graduate student researchers on the project have gained knowledge from the YTC students.

Tristan Robinson, a U of A human ecology graduate student and research assistant on the project, says she feels her time spent on this project is invaluable.

“The students give so much insight into things I had no idea about. They always bring in a focus that the rest of the research team

doesn't have. We put a certain academic focus on [the project] and they bring us back to a community focus,” said Robinson.

She thinks the findings from this project will give the communities their own tool to strengthen parent and teacher engagement in the learning process. “It's about engaging their children differently and getting the community involved as a whole in the learning process,” she said.

The student research assistants have just completed their positions and have moved on to additional coursework toward their degrees and summer employment opportunities.

The research team will be analyzing a new round of assessment data over the summer and will look for new opportunities to engage Yellowhead Tribal College students in the fall of 2013. ■

laurels

Ken Porteous, associate dean of the Engineering Co-op Program, was awarded the American Society for Engineering Education Clement J. Freund Award for outstanding contributions to the aims and ideals of co-op education.

Dion Brocks, professor and associate dean for undergraduate student affairs in the Faculty of Pharmacy and Pharmaceutical Sciences, received a fellowship from the Canadian Society for Pharmaceutical Sciences for his active support of the society. Brocks is an associate editor of the *Journal of Pharmacy & Pharmaceutical Science*, has spearheaded poster judging, held a position on the awards committee and sat on the board of directors.

classified ads

ACCOMMODATIONS FOR RENT

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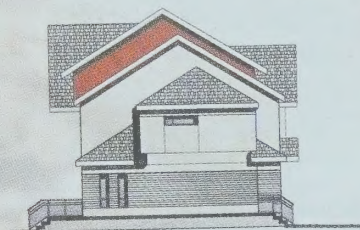
(From left) Jeannie Paul, Garrett Strawberry and Tyson Frencheater



FRONT ELEVATION TOWNHOUSE
Scale 1:100



REAR ELEVATION TOWNHOUSE
Scale 1:100



SIDE ELEVATION TOWNHOUSE
Scale 1:100



PHOTOS FRANCOIS BROCHU



BUILDING COMMUNITY

One of the objectives of the GIVE, GROW, PLAY Learning Event is to give U of A support staff the opportunity to increase our awareness of, and interaction with, the community in which we live. GIVE, GROW, PLAY is proud to be part of the solution to providing Edmontonians with low-cost housing alternatives by volunteering with Habitat for Humanity Edmonton at the Neufeld Landing build (11403-17 Avenue SW). To get involved go to www.hrs.ualberta.ca/Learning/Programs/GiveGrowPlay.